COASTAL CONSERVANCY

Staff Recommendation
February 3, 2006

MORRO BAY ECOSYSTEM BASED MANAGEMENT

File No. 05-092
Project Manager: Timothy Duff

RECOMMENDED ACTION: Authorization to disburse up to $500,000 to the California Polytechnic State University Center for Coastal Marine Science (Cal Poly Foundation) for the development of the Morro Bay Ecosystem Based Management Program.

LOCATION: Morro Bay, San Luis Obispo County

PROGRAM CATEGORY: Integrated Coastal and Marine Resources Protection

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EXHIBITS

Exhibit 1: Project Location and Site Map

Exhibit 2: Summary Tables of EBM Objectives & Deliverables

Exhibit 3: Letters of Support

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31220 *et seq.* of the Public Resources Code:

"The State Coastal Conservancy hereby authorizes disbursement of up to $500,000 to the California Polytechnic State University Center for Coastal Marine Science (Cal Poly Foundation) for the development of the Morro Bay Ecosystem Based Management Program, subject to the condition that prior to disbursement of Conservancy funds, the Cal Poly Foundation shall submit for the review and written approval of the Executive Officer of the Conservancy a final work program, including a budget and schedule, the names of any contractors and subcontractors to be employed for these tasks, and evidence that all other funds necessary to complete the project have been obtained."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The project is consistent with Chapter 5.5. of Division 21 of the Public Resources Code (Section 31220).
2. The proposed project is consistent with the Project Selection Criteria and Guidelines adopted by the Conservancy on January 24, 2001.
3. The Cal Poly Foundation is a nonprofit organization existing under Section 501(c)(3) of the U.S. Internal Revenue Code, whose purposes are consistent with Division 21 of the Public Resources Code.

PROJECT SUMMARY:

The California Ocean Protection Act (COPA) recommends development of ecosystem based management ("EBM") programs that integrate ecosystem approaches to reach broad conservation, restoration, and sustainability goals. The state's Ocean Action Strategy Report recommends that funding be directed to coordinated ecosystem based management approaches at the local level to guide and improve the stewardship of ocean and coastal resources. In response to these recommendations, the Center for Coastal Marine Science at California Polytechnic State University (Cal Poly) is requesting up to $500,000 in match funding to develop an EBM Program for the Morro Bay region.

Conceptually, EBM emphasizes a more holistic resource management approach that involves the participation of scientists, land and marine resource managers and other stakeholders in an institutional network that encompasses the linkages and boundaries of ecosystems. Such an approach serves to increase the efficacy of resource management, conservation, and restoration by incorporating high quality and broadly shared ecosystem knowledge into these activities. By identifying the critical issues relevant at all systemic levels, resource managers and others are able to focus their time and resources more effectively.

Regional efforts to conduct science and manage the resources in the Morro Bay area are seen by project proponents as fragmented within narrowly defined elements of the ecosystem. The two primary groups pursuing research, conservation, and sustainable use in the area are the Marine Interests Group of San Luis Obispo ("MIG") and the Morro Bay National Estuary Program ("MBNEP"). The MIG has focused on the coastal and marine areas of the ecosystem, while the MBNEP has directed its efforts to the estuary and watershed. Operating independently and with a focus on different geographic areas of the ecosystem has led to significant gaps in understanding of the larger ecosystem and, specifically, of the key ecological and economic linkages between the terrestrial, freshwater, and marine habitats. Currently, neither the State Department of Fish and Game (DFG) nor the State Department of Parks and Recreation (DPR) is formally represented on the MIG or MBNEP, and as a result, much of the MIG/MBNEP activity has to date largely taken place in isolation of these two key resource agencies.

The Morro Bay EBM Program will distill a core set of interrelated objectives and deliverables focused on the most important issues of ecosystem concern (i.e. water quality, indicators of biological health, indicators of socio-economic health, critical nursery and spawning grounds, and human access). It will also develop an effective institutional framework for resource managers and other stakeholders to apply the results. A critical component of this framework is

the creation of an EBM advisory committee comprised of staff from all of the relevant resource management agencies and community stakeholders in the project area, including DFG and DPR.

The program's broad objectives will be:

1. To develop and monitor relevant physical/chemical, biological, and socioeconomic indicators across the ecosystem and to determine how the various components are interconnected and how they affect one another;

2. To establish a clear understanding of the institutional linkages within the ecosystem and to build and reorganize the "institutional ecosystem" where needed;

3. To provide land managers and stakeholders with improved ecological and sociological data for shared deliberation and decision making on an ecosystem-wide basis for maximum impact and cost effectiveness; and

4. To develop a model for EBM that can be utilized in other areas of California, the nation, and the world.

The above objectives translate into a set of specific deliverables and associated management values that are summarized in Exhibit 2.

The Morro Bay National Estuary and adjacent watershed and coastal zone provide a unique opportunity within the central coast of California to utilize and benefit from a formalized EBM approach. The area encompasses one of the least impacted and most naturally functioning estuarine ecosystems in California, and therefore provides an unusual opportunity to test EBM benefits. Morro Bay is also considered an ideal model watershed for this EBM program because it is small enough to be feasible for study, restoration, and protection efforts, yet is large enough to reflect national and international watershed issues such as non-point source pollution, development, agriculture and rangeland uses, and wastewater treatment. A major goal of this EBM program will be to develop a model for regional efforts suitable for replication elsewhere in California, the nation, and in other countries.

Morro Bay was also selected for the proposed development of an EBM program because the effort would build on existing resources and infrastructure, and complement and magnify the many ongoing efforts to protect and restore this nationally significant estuarine system. As mentioned above, all of the key resource management agencies and community stakeholders in the project area will be serving on a proposed advisory committee. The program will serve to focus attention on critical issues, and provide ongoing feedback to committee participants on scientific progress and results that will serve to enhance their ongoing collaboration and management activities.

The Cal Poly Foundation, a 501(c) nonprofit foundation affiliated with California Polytechnic State University, is well suited to carry out the proposed EBM program. The faculty members associated with the Cal Poly Center for Coastal Marine Science have acquired and successfully managed over $8 million in grant funding in the last seven years to execute a variety of research

programs aimed at understanding the ecological processes of coastal marine systems. All of the collaborating scientists are proven experts in their field, offering the EBM program the best of local and national talent. The core leadership team collectively has decades of proven expertise in leveraging resources cost effectively, delivering high-quality, problem-solving scientific results, communicating effectively with resource managers, stakeholders and the public, and sustaining and building productive collaborative networks.

As Cal Poly's partner on the leadership team for this proposal, and as one of the Coastal Conservancy's primary project partners in the Morro Bay region, the Morro Bay National Estuary Program (MBNEP) is well positioned to assist in the successful execution of this EBM program. MBNEP staff has provided critical support on a wide variety of complex conservation projects, and has managed nearly $3 million dollars in federal, state, and private grants in the past five years. The MBNEP has also been responsible for directing the expenditure of over $3.6 million for restoration projects in the area from the Central Coast Region 3 Water Quality Control Board's Morro Bay Restoration Fund.

Site Description: The Morro Bay National Estuary is one of the most significant wetland systems on California's Central Coast. It juxtaposes a globally significant hotspot for terrestrial biodiversity with a rich and productive coastal marine ecosystem. The bay/estuary is a 2,300-acre semi-enclosed body of water, which flows offshore into the larger Estero Bay. The estuary serves as a link for many migratory species (e.g., birds, steelhead) and as a permanent home for a variety of fish, mammals, invertebrates, and plants, including 16 federally threatened or endangered species, six of which are endemic to the area. The distribution of habitats within the bay include eelgrass beds, mudflats, salt marsh, sandy beaches, and to a lesser degree, emergent rocky substrata. The area outside the bay is dominated by both sandy and rocky intertidal and subtidal benthic habitats with extensive kelp beds north and south of the bay. The coastal environment of San Luis Obispo County is important as it is within the transition zone between the Oregonian and Californian biogeographic provinces and is considered to be the most productive coastal upwelling zone in California.

The Morro Bay watershed is 48,000 acres (75 square miles), and includes two primary tributaries, Los Osos and Chorro Creeks. About one-third of the Morro Bay watershed is in some kind of public ownership, including Morro Bay State Park, Chorro Valley County Park, Los Padres National Forest, and the U.S. National Guard facility at Camp San Luis. The remainder of the watershed is in private ownership and contains the residential and commercial areas of Los Osos, parts of the City of Morro Bay, and scattered ranchettes and large homes. Primarily, however, the watershed is made up of medium to large cattle ranches and farms.

Project History: In 2004 a Packard Foundation planning grant to Cal Poly supported the development of this comprehensive EBM program proposal. In September 2005 Coastal Conservancy staff met with project proponents to discuss the agency's potential interest in supporting the project, and in November 2005 staff agreed to recommend to both the California Ocean Protection Council (OPC) and Coastal Conservancy board match funding for the project. In December 2005 the Packard Foundation approved an additional grant to implement the proposal. In January 2006 the OPC approved the proposed state funding for the project in recognition of the California Ocean Protection Act (COPA) recommendation for development of

EBM programs that integrate ecosystem approaches to reach conservation, restoration, and sustainability goals.

PROJECT FINANCING

Coastal Conservancy	$500,000
Packard Foundation	1,500,000
Resources Legacy Fund Foundation	400,000
Cal Poly Foundation	$719,000
Total Project Cost	**$3,119,000**

The anticipated source of Conservancy funds for this project is the Ocean Protection Council's Tidelands Oil funds appropriated to the Secretary of Resources in FY 04/05 for projects authorized pursuant to the Ocean Protection Act. The Resources Agency has entered into an interagency agreement with the Conservancy to administer these funds on behalf of the Council and to recommend projects for funding. These funds are to be expended by the Conservancy in concert with the Council for programs and projects that the Council finds to be of high priority.

Additional match funding of $1,500,000 is being provided from the Packard Foundation, along with $400,000 from the Resources Legacy Fund Foundation, and $719,000 from Cal Poly. The Central Coast Region 3 Water Quality Control Board staff is currently evaluating options to provide match funding, and expects to identify suitable grant fund sources later this year.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

This project would be undertaken pursuant to Chapter 5.5 (Section 31220) of Division 21 of the Public Resources Code which allows the Conservancy to carry out projects that protect and/or restore marine habitat. Under Section 31220 of the Public Resources Code, the Conservancy may undertake projects that meet any of the objectives specified in subsection (b) of that section. Consistent with Section 31220(b)(1), the proposed project will serve to help reduce contamination of coastal zone waters, including coastal and near shore waters by deploying instruments at various locations including creek mouths, the bay/estuary, and the open coast to monitor changes in nitrates and delineate phytoplankton communities, including harmful algal blooms, to create mass balance budgets to determine sources and sinks of nutrients to the bay and near shore coastal waters. This data can then be used to target and reduce pollutant sources. Consistent with Section 31220(b)(2 and 3), the proposed project will serve to help protect, restore or reduce threats to fish and wildlife habitat within coastal and marine waters and coastal watersheds by detailing the extent and distribution of fish and invertebrate habitats in the bay and estuary, and thereby provide specific guidance for future conservation activities. Consistent with Section 31220(b)(7 and 8), the proposed project will serve to help reduce the impact of population pressure and provide public access that is compatible with resource protection and restoration objectives by identifying and locating the bay and coastal habitats and species at greatest risk to human uses, determine the impacts that can occur to rocky intertidal habitats due to visitor use, determine the types of uses and levels of use ("carrying capacity") that could be allowed that still protect the biological integrity of these habitats, and then provide resource managers with data that can be used to help manage access to coastal resources that avoids impacts to sensitive habitats and species. Finally, the project is consistent with Section

31220(b)(10) given the California Ocean Protection Act (COPA) recommendation for the development of ecosystem based management ("EBM") programs that integrate ecosystem approaches to reach broad conservation, restoration, and sustainability goals.

Consistent with Section 31220(a), the Conservancy has consulted with the State Water Resources Control Board in the development of this project to ensure consistency with Chapter 3 (commencing with Section 30915) of Division 20.4 of the Public Resources Code. The Department of Fish and Game has also been consulted in developing this project. As required by Section 31220(c), the project will include a monitoring and evaluation component, and will be consistent with local and regional watershed management and water quality control plans, as described below under "Consistency with Local Watershed Management Plan/State Water Quality Control Plan."

CONSISTENCY WITH CONSERVANCY'S STRATEGIC PLAN GOAL (S) & OBJECTIVE(S):

Consistent with **Goal 6, Objectives B**, the proposed project will benefit coastal marine resources through the development of an ecosystem based management plan that will serve to improve water quality to benefit coastal resources, including bay and near shore coastal and ocean resources.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines adopted January 24, 2001, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Support of the public:** The project has the support and active participation of numerous public agencies including the NOAA Fisheries, California Department of Fish and Game, California Department of Parks and Recreation, the Central Coast Regional Water Quality Control Board, Coastal San Luis Resources Conservation District, and the Morro Bay National Estuary Program. The project is also supported by state and local elected officials and nonprofit organizations (Exhibit 3).
4. **Location:** The proposed project is located within the coastal zone in San Luis Obispo County.
5. **Need:** Resources Agency funding is needed to match private foundation funding for the proposed project.
6. **Greater-than-local interest:** Development of an EBM approach for the Morro Bay National Estuary and surrounding region would complement and magnify the many ongoing efforts to

protect and restore this nationally significant estuarine system. The EBM program would be developed to serve as a model for regional ecosystem-based management efforts suitable for replication elsewhere in California, the nation, and in other countries.

Additional Criteria

7. **Leverage:** See the "Project Financing" section above.
8. **Innovation:** The proposal represents the beginnings of a completely new model for ecosystem-based exploration and management of Morro Bay's watershed, estuary, and near shore ocean environments.
9. **Resolution of more than one issue:** This project will serve to develop and monitor relevant physical/chemical, biological, and socioeconomic indicators across the Morro Bay ecosystem, establish a better understanding of institutional linkages within the ecosystem, and provide land managers and stakeholders with improved ecological and sociological data to incorporate into their management programs.
10. **Readiness:** The project sponsors are ready to initiate and complete the project over a defined three-year period beginning in early 2006.
11. **Realization of prior Conservancy goals:** In 1986, the Conservancy initiated the Morro Bay Watershed Enhancement Program to study bay sedimentation processes and to identify measures to slow high sedimentation rates and prevent habitat, recreational, and commercial losses in the bay. In 1990, the Conservancy adopted the Morro Bay Watershed Enhancement Plan which focused on efforts to reduce sedimentation and expand and enhance wetlands and other habitat in the Morro Bay watershed. For the past ten years the Conservancy has provided over $10 million in grant funds to complete numerous restoration projects in the watershed that have resulted in the preservation of valuable agricultural land, restoration of riparian, wetland and wildlife habitat, improved water quality, and reduced sediment loads to the bay.
12. **Cooperation:** The Morro Bay EBM program was explicitly designed to involve all of relevant local and state agencies and private interest groups that have a stake in the management and conservation of the area's estuary, coastal, and ocean resources.

CONSISTENCY WITH LOCAL WATERSHED MANAGEMENT PLAN/STATE WATER QUALITY CONTROL PLAN:

The intent of local coastal watershed management plans is to prevent water quality degradation and to protect the beneficial uses of coastal waters. Water quality control plans adopted by the State Water Resources Control Board are designed to focus resources on key issues, promote the use of sound science, and promulgate cooperative, collaborative efforts in coastal areas to protect and enhance coastal waters.

The EMB will involve research and planning to promote more sustainable use of coastal resources and fisheries. For the same reasons, the proposed project is also consistent with the policies of the 2001 California Ocean Plan that states "the beneficial uses of the ocean waters of the State that shall be protected include…water contact and non-contact recreation; aesthetic enjoyment; commercial and sport fishing; …preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; (and)

fish migration."

COMPLIANCE WITH CEQA:

The proposed preparation of the planning program is statutorily exempt from review under the California Environmental Quality Act pursuant to 14 California Code of Regulations Section 15262, in that it would involve only planning studies and feasibility analysis. The project is also exempt under Section 15306, which exempts basic data collection and resource evaluation activities. Environmental factors will be considered in the studies undertaken pursuant to this authorization. Staff will file a Notice of Exemption upon approval of the project.